

Cross-linguistic transfer effects in bilingual English-Māori voice quality and pitch

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Introduction

- Previous research has suggested that the two main ethnolects of New Zealand English - Pākehā English (standard European variety) and Māori English - differ in pitch and voice quality:
 - Māori English has significantly higher mean f₀ (Szakay 2006)
 - Māori English is more creaky, as shown by H1-H2 values based on f₀ measurements in Praat (Szakay 2012)
- Are these differences due to transfer effects from the Māori language?
- We examine potential cross-language transfer effects in two English-Māori bilingual individuals, using two monolingual Pākehā English speakers as control.

Method

- Participants**
 - data from from Gruber et al. (2016)
 - audio/video recordings of 4 bilinguals and 6 monolinguals
 - we analyse the speech of
 - 2 male Pākehā monolinguals
 - 2 male Māori bilinguals
 - chosen because of strong Māori language upbringing
 - most likely to have developed different pitch profiles for English and Māori
- Task**
 - watch a cartoon and retell the story in own words
 - in three different language settings (randomized order)
 - in Māori with a Māori interviewer
 - in English with the same Māori interviewer
 - in English with a Pākehā interviewer



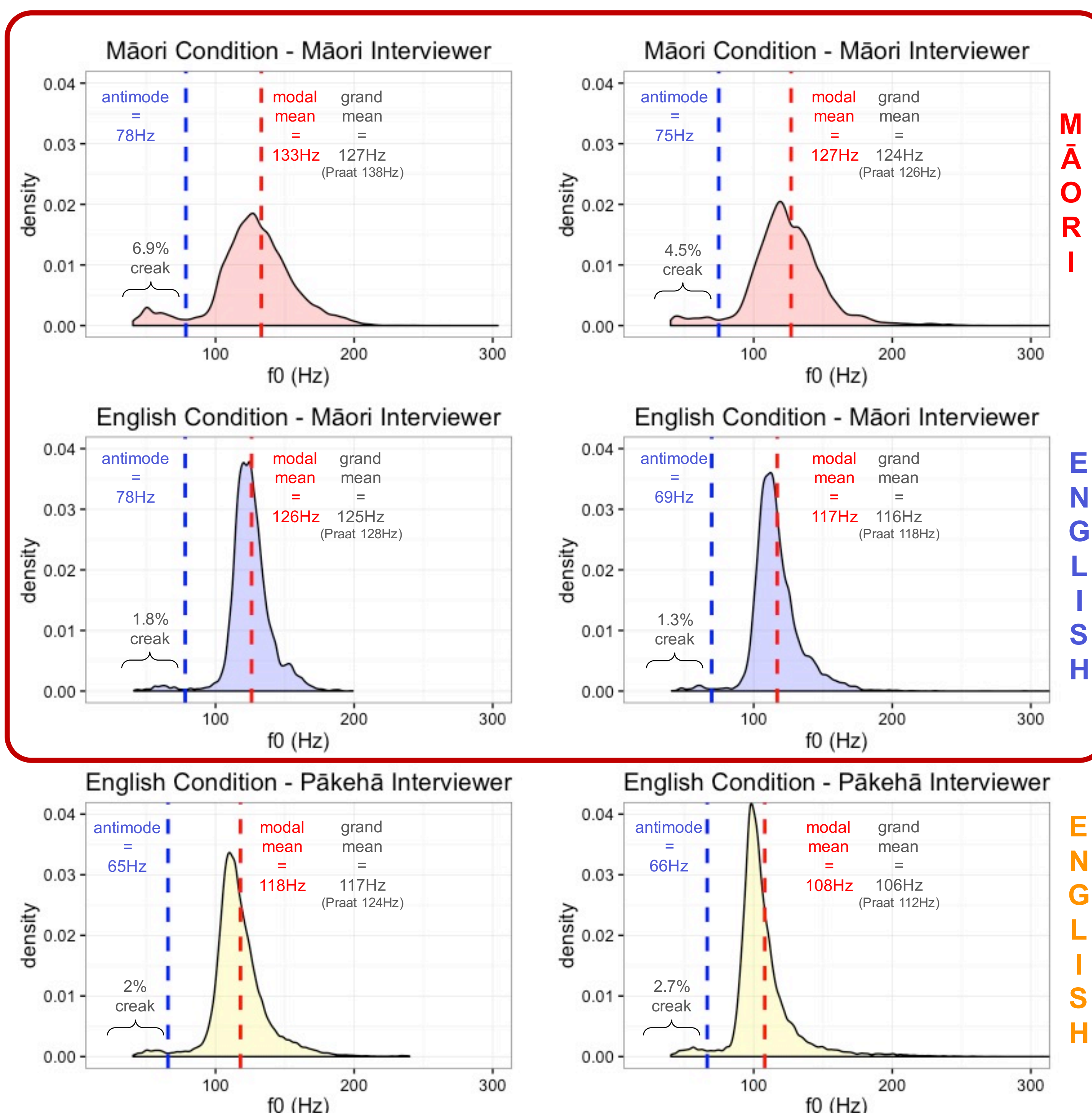
Analysis

- 4-8 min long recordings
- REAPER Robust Epoch And Pitch Estimator (Talkin 2015)
 - effective f₀ measurements at low pitch ranges (Dorreen 2016, Dallaston & Docherty 2017)

f₀ - Māori Bilingual Speakers

M01

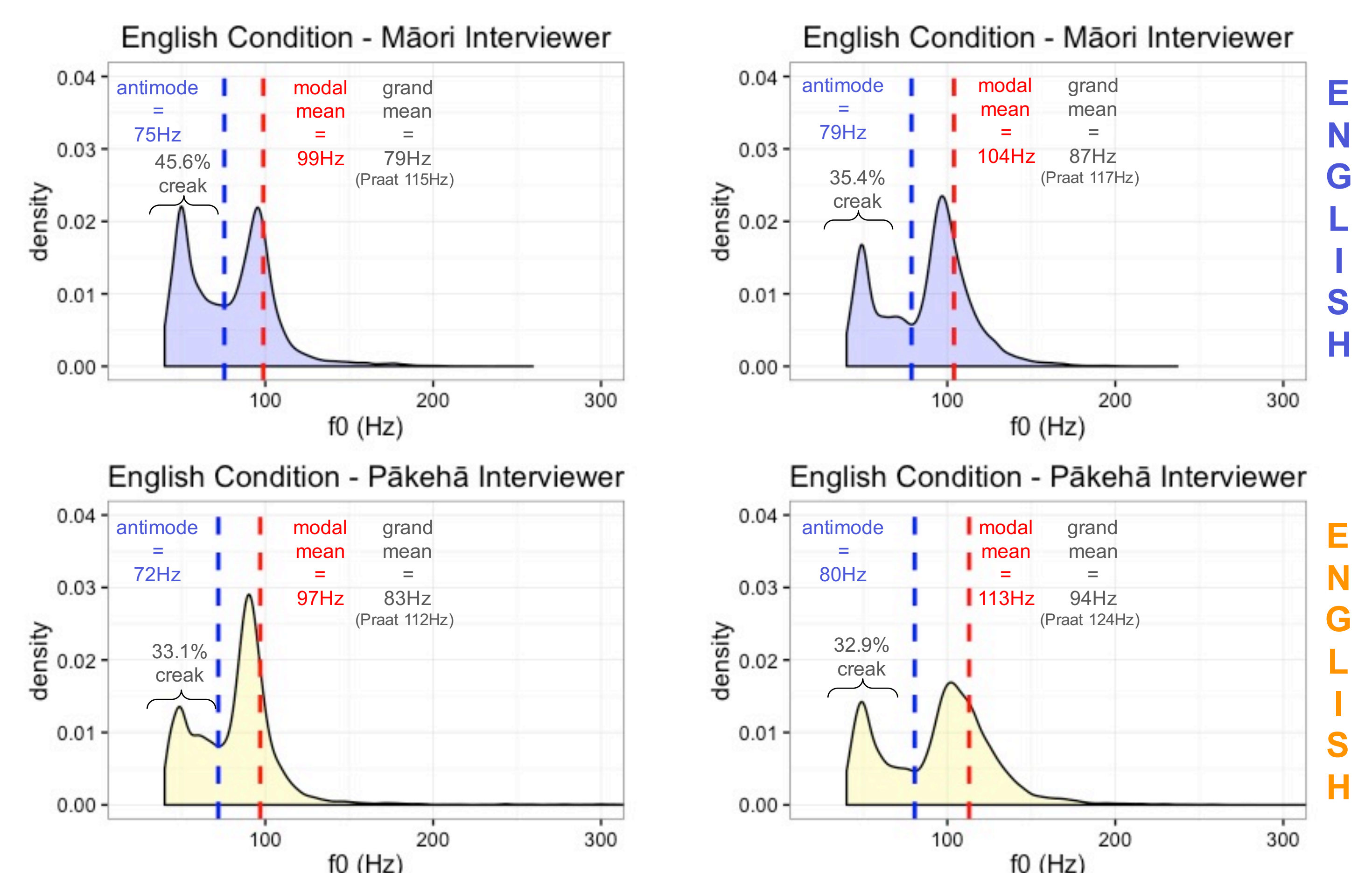
M02



f₀ - Pākehā Monolingual Speakers

P01

P02



Conclusions

- Māori bilinguals have a higher mean pitch in Māori (L2) than in English (L1)
- Māori bilinguals have a higher mean pitch in English when talking to a Māori interviewer than when talking to a Pākehā interviewer
- Pākehā English speakers have lower f₀ and higher % of creak than Māori English speakers
- REAPER is much better for f₀ analysis than Praat
- H1-H2 values based on Praat's f₀ estimation might be unreliable as Praat fails to pick up low f₀

References

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